CROSSTEX
ENERGY SERVICES

August 15, 2012

Mr. Peggy Hatch – Secretary
Louisiana Department of Environmental Quality
PO Box 4301
Baton Rouge, LA. 70821-4301

Re: Crosstex – Napoleonville Liquid Storage Cavern Worst Case Scenario Analysis

Dear Mrs. Hatch:

Crosstex Energy Services, L.P. ("Crosstex") received the Louisiana Department of Environmental Quality's (the "Agency") request on August 14, 2012 to evaluate its operations at the Crosstex Napoleonville Storage facility (the "Crosstex Facility") and perform an updated "worst case scenario" analysis of its hydrocarbon product storage operations at that location. Although this request is not consistent with the methodology defined in EPA's regulations (40 CFR Part 68) associated with Risk Management Plans, the Agency requested that the evaluation consider the storage cavern as the largest vessel and re-evaluate scenarios based on those criteria, and Crosstex has done so. Crosstex's priority is to work with the LDEQ to ensure public safety and to provide open communication.

Let me begin by stating that Crosstex believes that the public safety is not at risk due to the operations at the Crosstex Facility. Crosstex's investigation and evaluation determined that under a "worst-case" scenario, where the well head, the well casing or the storage cavern at the Crosstex Facility were to be negatively impacted, the public would not be at risk. Specifically, if the well head or well casing were impacted and a surface release were to occur, the vapor pressure of normal butane and the static pressure caused by the well depth would prevent anything more than a minimal release of liquid butane at the surface. There would be no vapor cloud. It is only when normal butane is being pushed out of the well by pumping a displacement fluid into the bottom of the storage cavern that butanes would exit the well at the surface. If the well head and well casing were severed, you would not be able to pump into the well and thus, a release at the surface would be minimal and would not threaten the public or the environment any greater than modeled in the current Risk Management Plan. To substantiate this, enclosed are specifics justifying our conclusions after our reevaluation.

Facility Description & State of Operation

Currently, Crosstex owns and operates two salt dome liquid storage caverns located off of Highway 70 approximately 6.2 miles southwest of Belle Rose in Assumption Parish, Louisiana. Well #1 has a total capacity of 1.7 million barrels, but is currently empty of

any hydrocarbon product and is completely filled with brine. Well #2 has a total capacity of approximately 1.5 million barrels and is currently being utilized for storage of normal butane. As of August 14, 2012, there is approximately 940,000 barrels of normal butane in the well, which represents approximately 63% of capacity.

Worst Case Scenario Evaluation & Explanation

Worst case evaluations to meet the expectations of the EPA's RMP program were conducted and submitted to the EPA as required. This worst case scenario was based on a discharge of approximately 8,400 gallons of butane being discharged through a broken pipe associated with the pump. The EPA's "RMP*Comp" program calculated a 1 psi overpressure distance of 0.3 miles. Please note that the amount of butane was calculated and then doubled to provide the most conservative risk estimate possible.

The agency requested that we prepare the additional worst case scenario analysis und the following guidance:

> *"Assumptions for the release rate from the salt dome should be treated in a manner similar to that for underground storage tanks. Reservoirs or vessels sufficiently buried underground are passively mitigated or prevented from failing catastrophically. You should evaluate the failure of piping connected to underground storage for the worst-case and alternative scenarios."*

The analysis showed that a natural sustained liquid flow (e.g. hydrocarbons exiting the well without pumping) from the well is not possible due to the depth of the well, the weight of the liquid hydrocarbons, and the vapor pressure of the well's contents. Calculations indicate that a column of normal butane in the well (i.e. 2000') will exert a natural pressure, due to gravity, of over 520 psi. The pressure exerted by the butane stored in the well is less than 25 psi. Therefore, due to the amount of pressure pushing downward the well will not free-flow upward to the surface without a mechanical means for doing so, such as pumping.

Use of a broken line at the surface for determining the "worst case" scenario is consistent with LDEQ guidance, EPA regulations and good engineering practices. These guidelines recognize that a large storage cavern containing butane will not naturally flow to the surface. Any amount of butane gases leaking from the well will be minor as compared to those amounts from a liquid pipeline break at the surface. For this reason, the basis for a "worst case" scenario then becomes a failure of the piping at the surface. As mentioned above, Crosstex used a very conservative calculation when determining the "worst case" scenario. Below is a comparison of the emergency impact radiuses associated with the two scenarios:

Comparison	Impact Radius
1 PSIG Impact Radius – Current RMP Model	0.3 miles
1 PSIG Impact Radius – nButane Storage Cavern Evaluation	0.2 miles

You expressed concern in your letter about a catastrophic failure of the storage dome resulting in an instantaneous release of hydrocarbons at the surface. This type of a failure scenario has never been seen and there are many reasons why deep underground storage is extremely safe and the

preferred method for storage. In addition, the geological location of these two wells is positioned deep in the stable salt zones of the salt dome and not on the periphery of the salt dome. This helps to ensure the integrity of the wells and prevents integrity issues such as fracturing out of the salt dome zones. Please remember that the liquid butanes are stored over one half of a mile underground. Many engineering studies of salt dome storage cavities have been conducted. These studies show that cavern failure can be attributed to salt creep, over-leaching, insufficient buffer salt, and seepage of product. These types of failures lead to the loss of the cavern for storage purposes, or loss of product (i.e. cannot be pumped to the surface). The most likely failure in a salt cavern system is well failure. Please note that butane exists as a liquid at these pressures and depths and behaves like a liquid and not a gas. Again, there has never been a catastrophic failure of a salt dome storage cavern resulting in an instantaneous release of butanes at the surface.

In sum, there has been no indication that the Crosstex Facility has been negatively impacted by the slurry-filled sink hole in the area. Crosstex will continue to monitor the wells at the Facility and conduct subsidence and horizontal position surveys every 7-10 days at each of the two well head locations at the Facility. In addition, Crosstex will continue to employ numerous other safety measures at the Crosstex Facility, including:

- Well-trained technical personnel man the Crosstex Facility 24 hours a day, 7 days a week. They perform hourly visual checks at the Facility.
- Crosstex's mechanical integrity program tests all of the piping at the Crosstex Facility and this test was recently performed in June 2012.
- The well pressures at the Crosstex facility are constantly monitored by the PLC (Programmable Logic Control) system in the control room.
- Emergency shutdown procedures are in place and ready to be deployed in the event that emergency conditions were to occur.

Crosstex understands the Agency's and the public's concerns associated with the events occurring in the Bayou Corne area. We are closely monitoring this issue and we are committed and prepared to react accordingly. Our employees work, live and are a part of the Pierre Part and Bayou Corne communities and we are committed to ensure safe operations, as we always have.

Respectfully,

Sean Atkins
Vice President of Compliance
Crosstex Energy Services, L.P.

Copy: Mr. Cloyce Clark III
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Mr. Stephen Chustz
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Louisiana Department of Natural Resources

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